

# TEXAS FREIGHT NETWORK TECHNOLOGY AND OPERATIONS PLAN



## Strategy

### STATEWIDE TRAFFIC OPERATIONS CENTER

Freight Technology Area	Traffic Management
Owner	TxDOT Divisions
Key Stakeholders	TxDOT Districts, Traffic Management Centers (TMCs), Metropolitan Planning Organizations (MPOs), Local Communities, Texas Department of Public Safety (TxDPS)
End-Users	TMCs, Truckers, Trucking Companies/Dispatchers

### Motivation

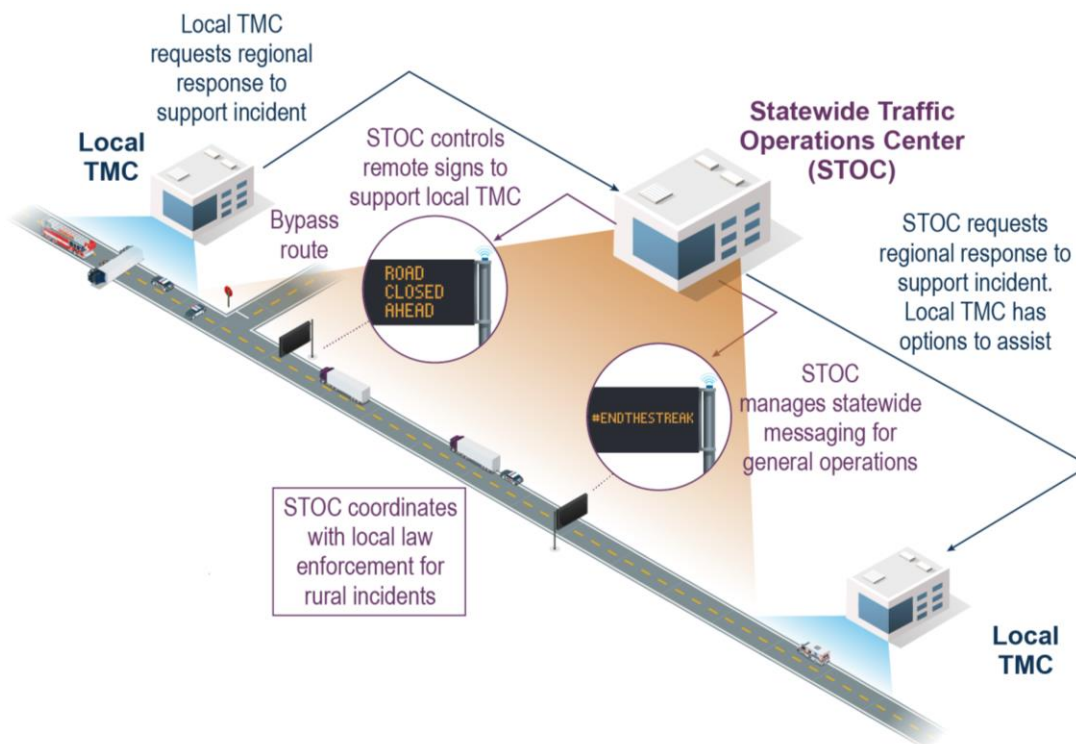
Most state roads within urban areas are closely monitored by regional TMCs. Many freight routes, however, are rural routes that are not monitored or managed from a traffic standpoint. Information is absent or inconsistent along rural corridors and events impacting operations across multiple regional TMCs are not available from a single source for freight operators to use to make strategic route adjustments during major disruptions.

### Strategy Description

Implement a Statewide Traffic Operations Center (STOC) for managing statewide freight initiatives and large-scale traffic management efforts. The STOC would provide coverage to rural freight routes, offer support to regional TMCs in terms of advancing messaging, provide consistent messaging and information at a statewide level, and integrate all Intelligent Transportation System (ITS) assets into a common software platform that is interoperable across all TMCs.

### Contribution to 2018 Texas Freight Mobility Plan Goals

- ✓ Mobility and Reliability
- ✓ Asset Preservation and Utilization
- ✓ Safety



## Strategy Scope

- Implement a TOC to consistently facilitate statewide traffic operations while working with regional TMCs to assist with managing local traffic operational needs.
- Provide consistent statewide messaging and strategies for general operations and major events, such as a hurricane evacuation, major route closure, or other disruptions.
- Provide consistent statewide messaging and strategies for general operations and major events, such as a hurricane evacuation, major route closure, or other disruptions. Regional TMCs would continue to operate their assets based on their needs, with the ability to ask the STOC for assistance when desired.
- Utilize a common ATMS platform and establish an interoperable platform to better exchange data, operate assets, and provide a consistent look and feel between TMCs
- Adjust statewide operational strategies to serve freight-specific needs at advantageous times of day, based on freight movement. This could include freight-specific messaging on highly-used statewide routes in response to higher freight volumes or, as available, an ability to adjust traffic signal timings to accommodate directional freight flows.
- Publish strategic truck route and parking information at advanced locations (i.e., publish messages on dynamic message signs in one TMC District for a route that is in another TMC District) in order to support truckers as they move from one region to the next.

## Examples of User Needs Addressed\*

- Need for more TxDOT-operated TMCs throughout the State to improve operations.
- Need for a statewide integrated Incident Management System to improve traffic operations.
- Need for technology to help support emergency evacuation.
- Need for more advanced notice of real-time traffic conditions (delays, incidents, construction, weather conditions) to improve routing decisions.

## Potential Benefits\*

Safety	Mobility	Vehicle Operating Costs	Benefit/Cost Range
<ul style="list-style-type: none"> <li>• 10% reduction in peak period fatalities</li> </ul>	<ul style="list-style-type: none"> <li>• 29% reduction of average incident duration time</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of up to 11 tons of carbon monoxide emissions</li> </ul>	<ul style="list-style-type: none"> <li>• 8:1 to 24:1</li> </ul>

## Cost Estimates\*

Sample Capital Cost	Sample Annual O&M Cost
<ul style="list-style-type: none"> <li>• TMC Consoles and Video Wall in Existing Room: \$1.24M</li> </ul>	<ul style="list-style-type: none"> <li>• TMC Consoles and Operators: \$3.12M</li> </ul>

## Timescale for Implementation

Near-Term (0-2 years)	Medium-Term (2-5 years)	Long-Term (5-7 years)
✓ Plan	✓ Deliver	✓ Operate and Maintain

**Freight Modes Covered:** Highways

\* The full list of user needs and supporting sources for benefits and costs can be found in the FNTOP Strategies and Conceptual Report.